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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/538,394

12/27/2005

James Clyde Hassell JR.

207,027

2272

7590 06/09/2009
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EXAMINER

WEISZ, DAVID G

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

06/09/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/538,394 | Applicant(s) HASSELL, JAMES CLYDE | |
| | Examiner DAVID WEISZ | Art Unit 1797 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1797

DETAILED ACTION

1. Response filed on 03/17/09 is acknowledged. No amendment was made to the claims. Claims 1-32 are pending in the application.

The examiner reconsiders the case and modifies the grounds for rejections.

Information Disclosure Statement

2. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Also, the Applicants are respectfully referred to the following excerpt from MPEP:

2001 Duty of Disclosure, Candor, and Good Faith

37 CFR 1.56. Duty to disclose information material to patentability.

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is cancelled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§ 1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

(1) Prior art cited in search reports of a foreign patent office in a counterpart application, and

(2) The closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

Art Unit: 1797

(b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and

(1) It establishes, by itself or in combination with other information, a *prima facie* case of unpatentability of a claim; or

(2) It refutes, or is inconsistent with, a position the applicant takes in:

(i) Opposing an argument of unpatentability relied on by the Office, or

(ii) Asserting an argument of patentability.

A *prima facie* case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

(c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

(1) Each inventor named in the application;

(2) Each attorney or agent who prepares or prosecutes the application; and

(3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.

(d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.

(e) In any continuation-in-part application, the duty under this section includes the duty to disclose to the Office all information known to the person to be material to patentability, as defined in paragraph (b) of this section, which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. **Claims 1-18** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. .

The examiner respectfully reminds the Applicants that according to MPEP §2163:

Art Unit: 1797

"2163.02. Standard for Determining Compliance with Written Description**Requirement:**

The courts have described the essential question to be addressed in a description requirement issue in a variety of ways. An objective standard for determining compliance with the written description requirement is, "does the description clearly allow persons of ordinary skill in the art to recognize that he or she invented what is claimed." *In re Gosteli*, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989). Under *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991), to satisfy the written description requirement, an applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention, and that the invention, in that context, is whatever is now claimed. The test for sufficiency of support in a parent application is whether the disclosure of the application relied upon "reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter." *Ralston Purina Co. v. Far-Mar-Co., Inc.*, 772 F.2d 1570, 1575, 227 USPQ 177, 179 (Fed. Cir. 1985) (quoting *In re Kaslow*, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983)). Whenever the issue arises, the fundamental factual inquiry is whether the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now claimed. See, e.g., *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991). An applicant shows possession of the claimed invention by describing the claimed invention with all of its limitations using such descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention. *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997). Possession may be shown in a variety of ways including description of an actual reduction to practice, or by showing that the invention was "ready for patenting" such as by the disclosure of drawings or structural chemical formulas that show that the invention was complete, or by describing distinguishing identifying characteristics sufficient to show that the applicant was in possession of the claimed invention. See, e.g., *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 68, 119 S.Ct. 304, 312, 48 USPQ2d 1641, 1647 (1998); *Regents of the University of California v. Eli Lilly*, 119 F.3d 1559, 1568, 43 USPQ2d 1398, 1406 (Fed. Cir. 1997); *Amgen, Inc. v. Chugai Pharmaceutical*, 927 F.2d 1200, 1206, 18 USPQ2d 1016, 1021 (Fed. Cir. 1991) (one must define a compound by "whatever characteristics sufficiently distinguish it").

The specification does not disclose the subject matter of claim 1 highlighted with bold font:

Claim 1(original) A method for obtaining a homogenous sample for compositional analysis of a pressurized multi-phase fluid stream flowing in a pipeline, the fluid stream consisting of a majority component of hydrocarbon gas, the minor component consisting of a minor proportion of one or more hydrocarbon liquids and water in the form of vapor, aerosols, droplets and/or liquid streams, the method comprising:

Art Unit: 1797

- a. injecting one or more surface active agents ("saa") into the fluid stream in an injection zone at a rate that is sufficient to form a stable uniform foam of the gas and the one or more hydrocarbon liquids and water components;
- b. mixing the one or more saa with the fluid stream in a mixing zone to form a uniform foam composition flowing in the pipeline downstream of the mixing zone;
- c. withdrawing a portion of the foam composition from the pipeline at a sampling point;
- d. passing the portion of the foam composition withdrawn from the pipeline through a sampling loop that is in communication with the pipeline;
- e. removing a sample of predetermined volume of the foam from the sampling loop for compositional analysis; and
- f. analyzing the foam to determine the amount of hydrocarbon and water present.**

The only part of the specification which refers to some kind of foam analysis is the following excerpt from the specification:

"A multi-phase meter in combination with the multi-phase sampling system of the invention replaces the test separator by sampling a homogenous stream sample and uses equation of state calculations in conjunction with chromatographic analysis to establish aqueous, liquid and gas phases. Karl Fischer titration for gas systems can be utilized to determine water content."

This disclosure has nothing to do with analysis of the foam to determine the amount of hydrocarbon and water present.

Thus, the Applicants did not show possession of the claimed invention by describing the claimed invention with all of its limitations using such descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention. *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997).

112 1st Enablement rejection

5. Claims 1-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to

Art Unit: 1797

which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The Breath of the Claims

The claims recite in the most general terms a method for compositional analysis of a pressurized multi-phase fluid stream comprising a step of "analyzing the foam to determine the amount of hydrocarbon and water present".

The Nature of the Invention

The invention recited in the claims is directed toward a hypothetical method of determining amount of hydrocarbon and water present in a foam of a multi-phase fluid stream. The specification provides a a method of analyzing aqueous, liquid and gas phases using a multi-phase sampling system in conjunction with chromatographic analysis, and that water content can be determined for gas systems using Karl Fischer titration (see P23/L5-12), however no analytical method for determining foam composition is disclosed in the specification. Additionally, these steps do not provide guidance on how one would determine foam composition using analytical techniques specific to an aqueous, liquid or gas phase individually, especially when the claims are drawn to obtaining a homogenous sample of a multi-phase fluid stream.

The State of the Prior Art

The prior art is in the field of sample analysis related to multi-phase fluid sampling for determining hydrocarbon and water presence in a foam.

Beuducel et al. (US 7140238) provide a method for determining the composition of a homogeneous foam consisting of oil and gas.

As the invention clearly discloses, foam compositions are analyzed via the attenuation and phase shifts of microwave beams, which are then compared with database results. No mention of chromatography or flow metering is made.

Djabbarah et al. (US 5470749) provide a method of measuring steam quality by converting the steam into a stable foam via surfactant.

Art Unit: 1797

As the invention clearly discloses, the foam is analyzed by measuring voltage drops and pressure differences. Again, no mention of chromatography or flow metering is made.

Akopova et al. (Chemistry and Technology of Fuels and Oils, 1968) provide a method of analyzing hydrocarbon water emulsions via chromatography.

The authors clearly describe the well known method to one of ordinary skill in the art to analyze an emulsion via chromatography, however, not a foam.

The Level of One of Ordinary Skill

The examiner considers this beyond the level of one of ordinary skill in the art to analyze a homogenous foam composition of a multi-phase fluid stream using a multi-phase sampling system in conjunction with chromatographic analysis, as it can be seen in the above paragraphs that foams are analyzed using microwaves, or if a hydrocarbon and water composition is to be analyzed using chromatography, it is in the form of an emulsion.

The Level of Predictability in the Art

The prior art does not provide a ground for any expectation of success for analyzing a foam using the method described in the specification (Page 23, L5-12). As can be seen from the recited papers, standard methods of such compositional analysis occur using microwaves or from either individual liquid or gas chromatography techniques.

None of the recited papers indicate the possibility of analyzing a foam composition using the methods recited in the specification (Page 23, L5-12).

The Amount of Direction Provided by the Inventor

The instant disclosure does not provide any direction for analysis of hydrocarbons or water content in a foam of a homogenous stream sample. The specification does not disclose the steps of analyzing such a foam via chromatography or any other method well known to one having ordinary skill in the art at the time of the invention.

The existence of working examples

Art Unit: 1797

No real working examples are provided in the specification or elsewhere for the analysis of a foam for hydrocarbons or water present. The applicants did not provide any evidence that such an analysis of a foam of a homogenous stream sample is possible.

The Quantity of Experimentation Needed to Make or Use the Invention Based on the Content of the Disclosure

The only mention of the practical steps of analyzing the foam composition is disclosed in the specification (page 23, L5-12), where the applicant's mention the possibility of chromatographic analysis to establish aqueous, liquid and gas phases of such a foam. Furthermore, the specification states that water content is derived from a gas system via Karl Fischer titration, not specifically from a foam. However, no guidance of how chromatographic analysis of a foam occurs is mentioned.

It would require undue experimentation for a routineer in the art to analyze a foam for hydrocarbon and water presence according to the claimed subject matter, because the method described in the specification (page 23/L5-12) has not disclosed as how it can capably analyze a foam. Therefore, it is unclear for a person of ordinary skill in the art how to obtain such an analysis according to the claims with no guidance in the specification for such an analysis.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims **19-23, 25-29 and 31-34** are rejected under 35 U.S.C. 102(b) as being anticipated by Djabbarah et al. (US 5470749) (Djabbarah).

Djabbarah discloses an apparatus comprising an injection means, a mixing means, a sampling probe, a sampling conduit in fluid communication with the probe and the pipe interior, a removal means and an analytical means (*Col1/L36-67*) (*claims 19,*

Art Unit: 1797

20, 25, 26, 31 and 32). Additionally, the reference discloses that the mixing means is a static mixer (*Col1/L36-67*) (*claims 21, 27*). Additionally, the reference discloses that the injection means comprises a time-release control valve (*Col2/L56-67*) (*Claim 23, 29*). Additionally, the reference discloses that surfactants are directly added to the fluid stream, with not pre-mixing step (*Col1/L36-67*) (*Claims 22, 28*).

Examiner's Note: Limitations that are drawn to the intended use of the apparatus but not drawn to structural limitations will not be considered in apparatus claims.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. **Claims 24 and 30** are rejected under 35 U.S.C. 103(a) as being unpatentable over Djabbarah in view of Mullen (5597950) (Mullen).

Djabbarah does not disclose a means of injecting a defoaming composition into the fluid stream.

Mullen discloses a means of injecting an anti-foaming agent into a foaming composition (*Col3/L52-65*) (*Claims 24 and 30*). It would have been obvious to one having ordinary skill in the art to have a means of injecting an antifoaming agent into

Art Unit: 1797

any foaming composition so as to control the amount of foaming when a surfactant is added to a fluid stream.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID WEISZ whose telephone number is (571)270-7073. The examiner can normally be reached on Monday - Thursday, 7:30 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on (571)272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

6/7/2009

/Yelena G. Gakh/
Primary Examiner, Art Unit 1797

/D. W./

Examiner, Art Unit 1797